

SYLLABUS

Mineral Processing Technology 2 7.5 credits Q0027B

Mineralteknik 2

Course syllabus admitted: Autumn 2016 Sp 1 - Spring 2017 Sp 4

**DECISION DATE
2016-01-22**

Mineral Processing Technology 2 7.5 credits Q0027B

Mineralteknik 2

First cycle, Q0027B

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Berg- och mineralteknik	Mining and Mineral Technology

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Q0024B Mineral Processing Technology 7.5hp or equivalent knowledge.

Selection

The selection is based on 1-165 credits.

Examiner

Jan Rosenkranz

Course Aim

The purpose of the course is to give deeper knowledge of production engineering within the mineral industry (mining-, mineral- and rock-material-industry) and the use of its products. After completed course the student should be able to:

- Define and dimension process-steps and produce typical flow-charts for crushing, milling and concentration within the mining industry (iron ore, sulfide ores, precious metals and energy raw materials).
- Account for the dressing of metal-concentrates for metal-production within the steel-industry and melting plants.
- Define and dimension process-steps and produce typical flow-charts for the production of industrial minerals.
- Account for the dressing of industrial minerals utilized at the production of cement, lime, filler, ceramics etc
- Dimension process-steps and produce flow-charts for production-plants within the rock-material industry.
- Utilize computerized simulation-programs for design of processes within the rock-material industry.
- Describe products, field of application and quality assurance within the rock-material industry based on European standard and CE-marking.
- The base for utilization of rock-material at road- and rail-building, and within asphalt- and concrete-production.
- Account for and understand production methods within the stone-industry.
- The base for feasibility studies within the mining-, mineral- and rock-material industries.
- The base for a sustainable development within the mining-, mineral- and rock-material industry.

Contents

- Selection of machines, dimensioning of process steps, production of flow-charts for production plants within the mining-, mineral- and rock-material industries based on available data from leading machine-suppliers.
- Educational visits at typical production plants within the mineral industry (mines with dressing plants, industrial-minerals plants and quarries/crusher plants).
- Building up of knowledge about the products of the mineral industry, their use and their customers. Particular regard is devoted to European standard, CE-marking and quality assurance of rock-material.
- The base for feasibility-studies within the mineral industry
- The base for a sustainable development within the mineral industry emphasizing valid/future EU-terms of reference

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Lectures, calculation-exercises, educational visits and short seminars.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Examination 5,0 credits and assignments 2,5 credits. Final grade after collected assessment of the examiner.

Literature. Valid from Autumn 2016 Sp 1

- Wills B.A. & Finch J.A. (2016). Wills' Mineral Processing Technology. 8 ed. Amsterdam: Butterworth-Heinemann. ISBN 978-0-08-097053-0.

- Handbooks, product information and soft ware from leading manufactories of equipment: Sandvik Mining & Construction, Metso Minerals etc.

Course offered by

Department of Civil, Environmental and Natural Resources Engineering

Items/credits

Number	Type	Credits	Grade
0001	Written exam	5	G U 3 4 5
0002	Assignment reports	2.5	U G#

Last revised

by Eva Gunneriusson 2016-01-22

Syllabus established

by Lars Bernspång 2012-04-03